

## Lesson Title: How Much of Fiction is Non-Fiction?

**Lessons Summary:** In this lesson, students study the diffusion of ethnicity throughout the US. Each group will be assigned an ethnic group, and will begin to look for correlations between education and median income. After working with the map, students will then read a short story written from a teen’s perspective about a character from that ethnic group. They will then make conclusions about whether the author is true to reality of that particular group of people in that particular area of the country. *This lesson is designed to be used with any short story with a teenage protagonist.*

Before you begin using this module, you will need to know about using the ArcGIS Server Web-based GIS viewer. You can do this by watching the server tutorial video or working through the tutorial. The tutorial video, student activity, and Web-based GIS Tutorial Viewer can be found at <http://gis.lanecc.edu>. Go to the “Modules” tab and click the Tutorial link. You will need a high speed Internet connection and a current version of Adobe Flash Player.

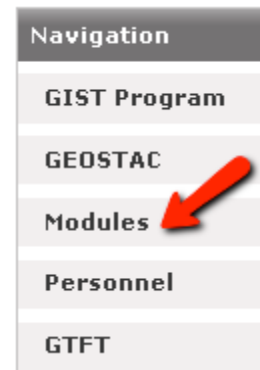
**Prior Skills:** You will need to know how to turn layers on and off, use the ID tool and, zoom in and out of the map, toggle from layers to the legend, and perform a search (Boolean) query.

**Computer steps** are indicated by a ► symbol. Questions you need to answer are numbered.

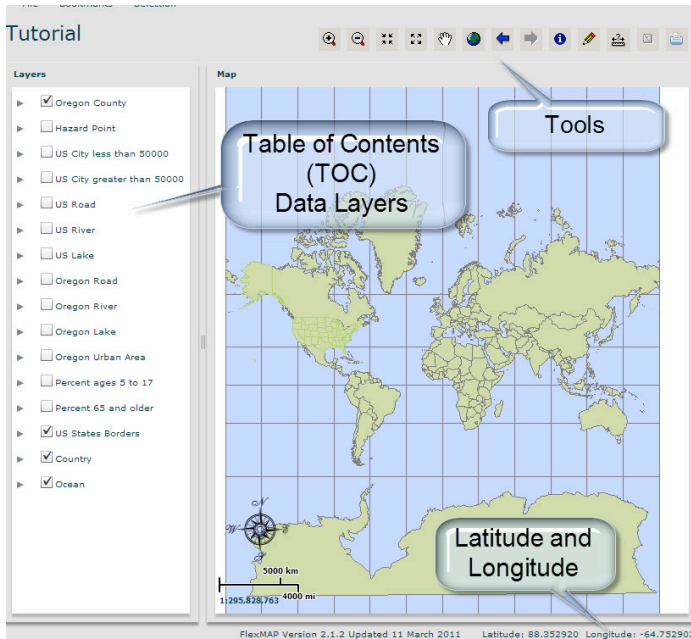
Record your answers for this activity on the answer sheet.

- Connect to the **MAPS-GIS webpage** at: <http://gis.lanecc.edu>
- Click on the **MODULES** link.
- Click on the link to **US Short Stories**.
- Choose **Link to the web-based map**

The page will take a minute or two to load. The base map will load first then the other data layers. If it stalls at 55%, just click the **refresh** button on your browser.

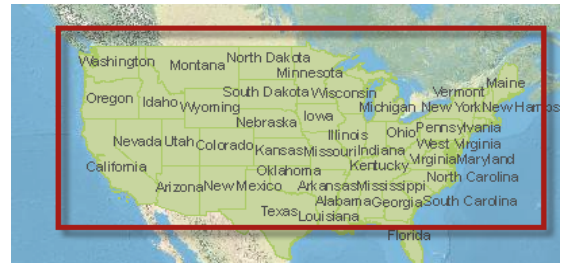


When it loads it will look similar to the image below. On the left side of the map is a Table of Contents (TOC) with a list of **Data Layers**, and at the top are several **Tools**.



In the lower right hand corner of the map (southeast) is the latitude and longitude, which shows the location of the computer mouse. In the lower left hand corner (southwest) of the map is a scale bar and a ratio scale.

Currently you see the world as a flat map. The states of the United States are shown in green. At this map scale the U.S. state names are crowded and difficult to read.



Use the **Zoom In** tool  to focus on the continental U.S.

- ▶ Click on the tool and hold the left mouse button down (*for a Mac use control and click*).
- ▶ Draw a rectangle around the U.S. from Washington to Florida.

Look at the data layers on the left. Each layer has a **Visible** check box beside it. Some are checked and some are not. You can only view a data layer if the box is checked.

- ▶ Find the state your short story is set in. Using the **Zoom In** tool, zoom into that state.
- ▶ We will be looking at information about the county your story is set in.

1) What county is Eugene in?


2) What county is your story set in?

- ▶ Click the box next to **County** so that it has a check in it like **Country Border** and **State Border** do.



3) What changed about your map?



- ▶ Now, click the box next the **Ethnicity Layer** of the main character in your story (Native American, Arab, Hispanic, etc.).
- ▶ In another window, open **Wikipedia**. Search for your county. This will bring up a picture of the state your county is in, and the county highlighted. This will give you a good idea where you county is in the state, and what it looks like.

- ▶ Using the **Identify** tool , select your county. A data table will appear with a lot of information. Scroll to the right until the field that says “Name” shows up. Confirm this is the correct county. If not, try again using the **Identify** tool until you find your correct county.

MED_INCOME	NAME	ObjectID	OBJECTID_1	OBJECTID_12	POP_2000	RESP_2000	Shape	Shape_Area
45111	Lane	7	8	8	322959	248509	Polygon	23115176062.6

- ▶ Next, look at the field that says “Pop\_2000.” That is the most recent population data available.

4) What is the total population of your county?

- ▶ Click the **X** to close the data table.
- ▶ Now, let’s find some information about your county. Click on the triangle  to expand the data information .

This data tells us how many people of that ethnic group live in this area for every 1,000 people. For example, let’s say your county’s color is the same as the data box that says “0-39.” That means that for every 1,000 people in that county, 0-39 are of that ethnic group.

- 5) How many people of your short story’s ethnicity live in that county per 1000?
- 6) How does this number correspond to your short story? Are there a lot of that ethnic group in your short story, but not a lot in the county in real life, or does this data support the short story?
  - ▶ Click the **Zoom to Previous Tool** until you can see the entire United States.



7) Find two other counties in different parts of the US that have the same amount of your story’s ethnic group per 1,000. Using the **Identify** tool, find out those counties’ names and what state each county is in.

County Name	State

- ▶ **Zoom** back into the state your story is set in.
- ▶ Unclick the box next to the ethnicity you have been working with so that there is not a check in the box anymore.
- ▶ Click on “Medium Income,” and click on the triangle to expand the data information.

This shows what the average household income is (how much each household makes per year). *For comparisson purposes, if you were to make only minimum wage (\$8.50 in Oregon) for a year, you would make around \$17,700 a year. The median income for Oregon in 2009 was about \$50,000. For the entire United States it was about \$52,000.*

8) What is the range of medium income for your county?

9) Does this seem similar to how much you think the family in your story makes? What evidence do you have to base your assessment of their wealth (or lack of) on?

- ▶ Click the **Zoom to Previous Tool** until you can see the entire United States again.
- ▶ Find the same two counties that have similar ethnic data.

10) What is each counties’ medium income?

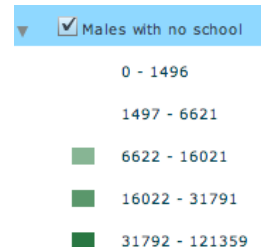
County Name	Medium Income

11) Are the medium incomes of all three counties similar or different? Please list the counties in order of highest medium income.

12) In your short story, did school seem like a priority or important to your main character? List two pieces of evidence to support your assessment.

- ▶ Zoom back into the state your story is set in.
- ▶ Unclick the box next to the “Median Income” so that there is not a check in the box anymore.
- ▶ Click on “Males with no school,” and click on the triangle to expand the data information.

13) What is the range of males without school for your county?



- ▶ Unclick the box next to the “Males with no school” so that there is not a check in the box anymore.
- ▶ Click on “Females with no school,” and click on the triangle to expand the data information.

14) What is the range of females without school for your county?

15) Do these statistics support the importance of school in your story?

- ▶ Click the **Zoom to Previous Tool** until you can see the entire United States again.

16) What are the statistics for your other two counties for males without school and females without school?  
*Fill in the information for you county your story is set in, too!*

<u>County Name</u>	<u>Median Income</u>	<u>Males w/o school</u>	<u>Females w/o school</u>

17) Based on these statistics, can you draw any correlation between income and schooling?

- ▶ Go back to **Wikipedia**, and read the page on the county your short story is set in.

18) What information on Wikipedia supports your map (*find at least two*)?

19) Is there any information that is different from your map?

20) So now the real question: How non-fiction (or factual) is fiction? What statistics did you find from your map that support your short story? Is there anything in your story that is completely wrong and not factual?

21) Why do you think your author set this story in this city?

**Career Extension:** Go to the website: [www.esri/industries.html](http://www.esri/industries.html)

These are all links to careers that use GIS. Click on the link to a career that you think someone would need to use the data we dealt with today (population, median income, schooling, ethnicity). Click on the link for that career.

22) What career did your group choose?

23) On the left side of the page, there is a column called “Industry Focus.” Looking through those links, find **three ways** GIS is used in the career your group chose.